ABSTRACT OF THE DISCLOSURE

An intrinsically safe, precise, and cost effective storage tank leak detection system. Embodiments include a highly precise quartz crystal type pressure transducer, secured in a vacuum and held at a constant temperature. Said transducer is used in combination with data correction and regression techniques to yield a storage tank leak detection system with an extremely low leak detection threshold. The storage tank leak detection system is thought to be most useful for detecting very small leaks in very large storage tanks, most likely above ground storage tanks.